

Claims:

1. A circuit for lowering the effective forward voltage drop of a semi-conductor diode comprising:

a first metal oxide semi-conductor (MOS) device connected in parallel with said semi-conductor diode, said MOS device having a set threshold voltage; and

a second MOS device for establishing a bias voltage for said first MOS device, said bias voltage being less than said threshold voltage by a small value.

2. The circuit as defined in claim 1 wherein said MOS devices each have a source, a drain and a gate connections, said source and drain of said first MOS device being connected in parallel with said diode, and said gate connected to said second MOS device to derive a bias voltage.

3. The circuit as defined in claim 2 wherein said second MOS device is connected to a reference current source.

4. A full wave rectifier circuit comprising first and second complementary diodes, each of said diodes having an associated circuit for lowering its effective forward voltage drop, said associated circuit comprising:

a first metal oxide semi-conductor (MOS) device connected in parallel with each of said semi-conductor diode, said MOS device having a set threshold voltage; and

a second MOS device for establishing a bias voltage for said first MOS device, said bias voltage being less than said threshold voltage by a small value.

5. A full wave rectifier circuit as defined in claim 4 wherein complementary metal oxide semi-conductor (CMOS) devices are used in association with said complementary diodes.

6. A method of reducing the effective voltage drop of a semi-conductor diode comprising:

connecting a first metal oxide semi-conductor (MOS) device in parallel with said diode, said first MOS device having a pre-determined threshold voltage; and

generating a bias voltage for said first MOS device, said bias voltage being less than said threshold voltage;

whereby input voltage applied to said diode is added to said bias voltage to turn on said MOS device, thereby bypassing said diode.

7. The method as defined in claim 6 wherein said diode is in a half wave rectifier circuit.

8. The method as defined in claim 6 wherein a pair of diodes are used in a full wave rectifier circuit.